

### **Remarks/Arguments**

Attorney for Applicants submits this Letter in response to the Office Action dated March 2, 2007.

Applicants have amended the Claims to correct certain typographical errors in order to more fully define the claimed invention. The amendments are made for the purpose of placing the claims in proper form according to the mandates of 35 USC 112.

Applicants note that the Examiner has maintained the restriction set forth in an Office Action dated October 10, 2006. Thus, the claims being considered are those of Group I (Claims 1-16) of the Restriction. Further, at the request of the Examiner, Applicant has made an election of species of said Group I claims and, therefore, Claims 1-4, 7, 9-12 and 15 are under active review. In addition, Applicants submit that Claims 5, 8, 13 and 16 cover the elected species of the Letter of Response dated November 9, 2006.

Applicants have maintained all claims in the subject application for the Examiner to further consider the rejoining of the claims upon allowance of the present Group I claims.

The Examiner has rejected Claims 1-4 and 9-12 under 35 USC 102 over the teachings of Matthews et al. (US Patent 6254803). It is respectfully submitted that this rejection is unwarranted for reasons indicated herein below. Withdrawal of this rejection is respectfully solicited.

Matthews et al. is directed to the use of a condensation co-polymer which, admittedly, could be of the form of presently claimed prepolymer P<sup>A</sup>.

It is respectfully submitted that Matthews et al. does not teach nor suggest the block co-polymer required by the presently claimed invention. The Examiner notes that Matthews et al. teaches that their P<sup>A</sup> polymers, having hydroxyl or amino groups, may be further reacted with styrene-maleic anhydride copolymer or olefin-maleic anhydride copolymers. The Examiner contends that such disclosure meets the claimed limitations regarding the presently claimed block copolymer composed of distinct first prepolymer (P<sup>A</sup>) blocks and second prepolymer (P<sup>B</sup>) blocks. Such is not the case. It is well known that maleic anhydride containing copolymers would undergo transesterification reactions with ester groups that are part of the structure of other ester group containing polymeric materials and, thereby, provide a random copolymer having maleic mer units as part of the residue of polymer (P<sup>A</sup>) and, conversely, tetrahydrophthalic mer units as part of the residue of polymer (P<sup>B</sup>). In other words, Matthews proposed reaction of styrene-maleic anhydride with a previously formed tetrahydrophthalic anhydride-alkylene glycol polyester (residual etherification catalyst would be present therein) would produce a polymeric product having random structural placement of tetrahydrophthalic acid-alkylene glycol ester groups, maleic acid-alkylene glycol ester groups, as well as styrene-maleic acid ester groups and tetrahydrophthalic anhydride-alkylene glycol ester groups. Some groups may be positioned as a single or a group of units within the structure. Clearly, such a resultant polymer product would not meet the requirements of the presently claimed invention.

Further, even if, arguendo, one takes the position that the suggested styrene-maleic anhydride copolymer would remain in tact and not become

interdispersed within the tetrahydrophthalic anhydride-alkylene glycol polyester prepolymer (P<sup>A</sup>), the resultant polymer product would not meet the presently claimed invention as the resultant product would have a high glass transition temperature ( $T_g$  of styrene/maleic anhydride polymer is ca. 240°C) providing an undesirable product that inhibits oxygen scavenging at room temperature and under refrigerated conditions.

It is respectfully submitted that the teachings of Matthews et al. does not disclose nor suggest the presently claimed invention. Withdrawal of the rejection made under 35 USC §102 is respectfully solicited.

The Examiner has rejected Claims 7 and 15 under 35 USC §103(a) as being obvious over the teachings of Matthews et al. in view of Bezwada et al. (US Patent 5133739). It is respectfully submitted that this rejection is unwarranted for reasons stated herein below. Withdrawal of this rejection is respectfully solicited.

Applicants have shown herein above that the teachings of Matthews et al. does not disclose nor suggest block copolymers, as presently claimed.

Further, the teachings of Matthews et al. and Bezwada et al. would not be combined in the manner suggested by the Examiner. Firstly, Matthews et al. is directed to polymers and compositions having utility as an oxygen scavenger material for application as a film packaging material in the food industry. The heart of the invention resides on the use of polymers with mer units that have ethylenic unsaturation as part of cyclic groups (e.g. tetrahydrophthalic acid anhydride and the like). The ethylenic group is capable of reacting with residual oxygen in the packaging atmosphere without producing fission by-products from the polymer molecule. In

contrast, Bezwada et al. is directed to an improved surgical filament or suture formed from e-caprolactone and glycolide polymers. The ductility of their polymer is taught to be enhanced by incorporation of additional amounts of glycolide.

It is clear that the two cited references are directed to distinctly different fields of technology (oxygen scavenger vs. surgical suture), form different types of products (film vs. filament), are directed to distinctly different types of polymer compositions (cyclohexenyl anhydride-alkylene glycol polyester vs. e-caprolactone-glycolide copolymer), and are modified for different purposes. One can not state that "one skilled in the art" would combine these teachings in view of the fact that the references are related to distinctly different arts and are applied for different purposes.

Further, Bezwada et al. directs one away from making the modification suggested by the Examiner. The Examiner takes the position that the secondary reference would suggest the use of a prepolymer formed from caprolactone as component ( $P^B$ ) of the presently claimed invention. The Examiner acknowledges that Bezwada et al. teaches that copolymers of e-caprolactone and glycolide provide "soft" entities and that glycolide homopolymers provide "hard" entities and crystallinity to their final polymer product. Thus, using the teachings of the cited secondary reference, one desiring to increase the crystallinity and performance of a polymer would be *inclined to use glycolide and not e-caprolactone* as part of their resultant material. This is contrary to that of the presently claimed invention where no glycolide is used or envisioned as block prepolymer  $P^B$ .

Applicants have unexpectedly found that copolymers composed of tetrahydrophthalic anhydride-alkylene glycol polyester and the like, as

suggested by Matthews et al. can be improved to enhance the oxygen scavenging ability and utility under refrigerated temperature conditions by further using the Matthews polymer as a prepolymer and combining it with a second prepolymer in a manner to form a block copolymer having distinct blocks of P<sup>A</sup> and P<sup>B</sup>, as presently claimed.

It is respectfully submitted that the art of record does not teach nor suggest the presently claimed invention. Withdrawal of the rejection made under 35 USC 103 is respectfully solicited.

Applicants believe that the Examiner will agree that the presently claimed invention is free from formal and art rejections and, therefore in condition for allowance. Such action is respectfully solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Howard Troffkin", with a long, sweeping horizontal line extending to the right.

Howard Troffkin

Attorney for Applicants

Reg. No. 25,184

cc: M.Quatt